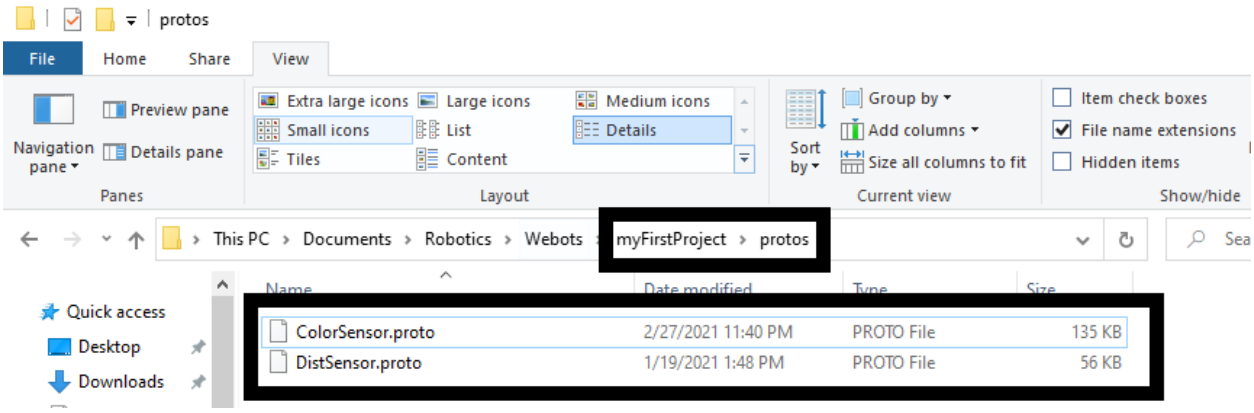
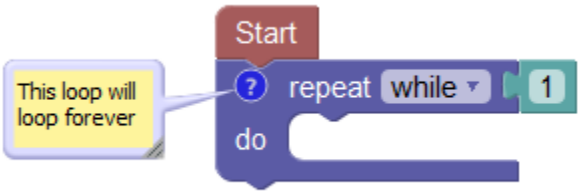
To add better distance + color sensor:

When you go to add a sensor, instead of using “Based Nodes”, use “PROTO nodes (Current Project)” to add a distance or color sensor. You will actually be able to see the sensors using this method (the base sensors in Webots are all invisible) and they will have friendly values. The distance sensor will read in centimeters from 1 cm to 1000 cm.



Challenge 1:

Print out the distance sensor value in a forever loop (hint: if you use a while loop and attach the number 1 to it, it will loop forever).



Challenge 2:

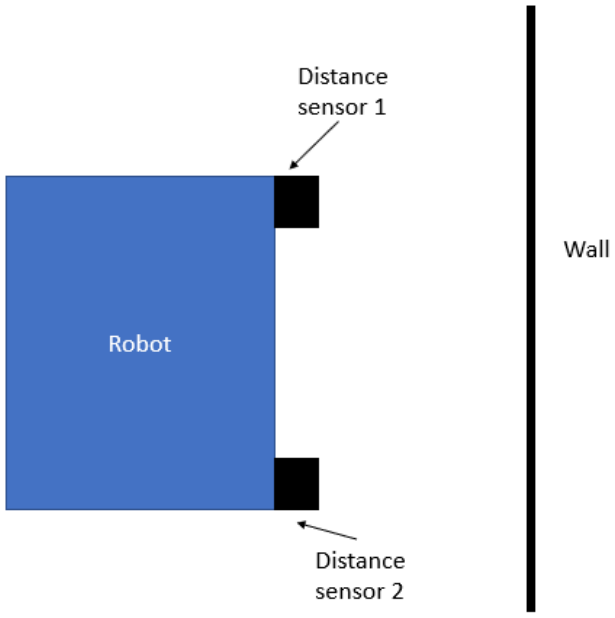
Have the robot move forward and stop when it reaches a certain distance from the wall (you decide the distance).

Challenge 3:

Repeat challenge 2 but have the robot gradually slow down as it approaches the target distance (hint: if you do this in a clever way you shouldn’t need many lines of code).

Challenge 4:

Add two sensors to the right side of the robot – one in the front and one in the back. Write a program that will always keep the robot parallel to the wall – rotate the robot and it should adjust itself back.



A figure for the set-up for challenge 4 – the positions don't have to match exactly, but it shows the general idea

Challenge 5: (tricky)